

STANDARD FORM NO. 64

~~SECRET~~*Office Memorandum* • UNITED STATES GOVERNMENTTO : Director, PIC GCL

DATE: 19 May 1959

FROM : Special Assistant to the Director, PIC

SUBJECT: Interservice Coordination Committee for Airborne Photographic
Equipment - Wright Air Development Center - 5 May 1959

1. Colonel A. L. Wallace, Jr., Chief, ARL at WADC, opened the meeting with a proposal for more cooperation and a request for greater energies to be spent in the Interservice R&D effort. He stated that the Air Force has three wings of RB-66's now deployed and one in the states; these are to be phased-out in 1962, and no new vehicle has as yet been discovered for replacement. The Colonel further urged the interservice use of the Wright-Patterson Labs where high altitude environments can be duplicated for developing taking systems. Captain Kiem of the United States Navy concurred with Colonel Wallace in a brief rebuttal speech.

2. Lt. Colonel Norman Gray of the Combat Surveillance Agency gave "The Army's Plans until 1970." The Army is placing a lot of faith in Project MICHIGAN and is waiting for a report on recommendations as to what PI gear to purchase.

3. Mr. Castellini of Fort Monmouth next gave what the Army plans to spend in 1960; i. e.:

- (a) \$50,000 - Photo-polymerization - Ansco.
- (b) \$150,000 - Experimental panoramic Camera using stationary optics - Old Delft.
- (c) \$50,000 - Contrast Control during taking process - using various slit widths - Fort Monmouth.
- (d) \$1,000,000 - PI equipment as recommended by Project MICHIGAN.
- (e) \$300,000 - 70mm long focal length camera for ground use with Automatic Processing - Polaroid.
- (f) \$50,000 - Phosphor printer similar to Goertz - Fort Monmouth.

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4. Captain Reed, USAF of ARDC, gave the Air Force budget of those items that the Air Force allowed him to disclose.

- (a) Project No. 6272 - \$600,000 - Photo materials, processors, and techniques which will give a high quantum yield and will remain nuclear radiation resistant.
- (b) Project No. 6170 - \$200,000 - Light Amplification, solid state approach.
- (c) Project No. 6175 - \$100,000 - Reconnaissance electro-photography.
- (d) Project No. 6171 - Not as yet funded - Photo Receptors, large single crystals.
- (e) Project No. 6273 - \$350,000 - Optical Technology.
- (f) Project No. 62720 - \$100,000 - Defraction Limited Lenses.
\$103,000 - Service test of two of above lenses - 300 lines/mm.
- (g) Project No. 62722 - \$50,000 - Night Photo Optics
- (h) \$57,000 to buy a radiation resistant lens of a long focal length.
- (i) Project No. 6721 - \$50,000 - 120° super wide angle lens.
- (j) Project No. 6220 - \$1,981,000 - Aerial Photo Reconnaissance Techniques.
 - 1. Task No. 62524 - \$100,000 - Night Ambient Light photography.
 - 2. Task No. 62799 - \$260,000 - Extremely high altitude techniques.
 - 3. Task No. 52794 - \$225,000 - Hypersonic Flight Effects on Aerial Reconnaissance.
 - 4. Task No. 62481 - \$631,000 - Satellite Photography Dynamic Analyzer.

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1445-1455 Coffee break
1455-1525 Report on Resolution and Test Ranges by Ad Hoc Committee
1525-1600 Discussion

WEDNESDAY 6 MAY 1959

0830-1015 Recording Cameras
1015-1025 Coffee Break
1025-1115 Strike, Bomb Damage Cameras
1115-1200 Mapping and Charting Camera Revisions and Discussion
1200-1300 Lunch - Hilltop Cafeteria
1300-1400 Camera Controls - Discussion Concerning Revision of DOD Guide
1400-1445 Camera Mounts
1445-1455 Coffee Break
1455-1530 General Discussion on Items Covered
1530-1600 Summation - Establish Time and Place of Next Meeting, Discussion of Items for Agenda

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5. Task No. 62799 - \$611,000 - Catadioptric Lenses - Large Aperture Lens for UV detection 2000 to 4000 Angstrom range for 70mm film.
- (k) Project No. 6263 - \$600,000 - Electronic Photographic Reconnaissance.
 1. Task No. 62766 - \$300,000 - Development of a TV photo tape sensor 70mm at 60 megacycles with a resolution of 100 l/mm. No cathode ray tube - RCA.
 2. Task No. 62178 - \$300,000 - Advanced reconnaissance mount techniques.
 - (l) Project No. 6231 - Task No. 62499 - \$180,000 - In Flight Ultra-Rapid Processor - Ansco.
5. CDR O'Reilly of BuAER PH gave the Navy's Budget.
 - (a) CA 03501 - \$148,000 - Miniature firing error camera.
 - (b) IO 13501 - \$75,000 - Single Panoramic Camera 12" 70mm for F8U-1P - ITEK.
 - (c) CA 03501 - \$750,000 - Photo Scanning Transmission System - Chance Vought.
 - (d)
 1. IO 13501 - \$30,000 - PI Key "Coke, Iron, and Steel PIC."
 2. \$35,000 - PI Key, "Exotic Fuels and Rare Metals."
 3. \$35,000 - Viewer for Comparative Analysis of Sensor Records.
 4. \$35,000 - Viewer for Panoramic Photography.
 5. \$40,000 - Master Terrain Model System.
 - (e) IO 13401 - \$120,000 - Rocket and Satellite Photo Systems - Project HUGO.
 - (f) AS 40502 - Day and Night Anti Submarine photo system.
 - (g) CA 03501 - \$35,000 - Radar Prediction and Validity Systems.
 - (h) \$14,000 - Unique Radar prediction techniques.

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- (i) \$10,000 - PI Study on Human Factors and PI. - Tufts.
- (j) IO 13401 - \$35,000 - Maximum utilization of extremely small scale photography.
- (k) IO 13501 - \$100,000 - Zerographic Plate Research.

6. Major Schatzley of RADC spoke on Rome's projects.

a. Rome is working on the integration of data from individual sensors. This is a multianalysis type of work using infrared, radar, photography and any other sensors. They have a milk run set up from Buffalo to Boston. Through the statistical treatment of data, they are able to show trends. This seems to be similar to the Dr. Heidelauf-Autometric proposal.

b. Aereo Services is performing a study for Rome on "Ways to Approach Small-scale Photography."

c. Basic Study of Inter-Planetary Surveys.

d. Ohio State is performing a study on oblique mensuration and will come up with a design for an oblique slide rule.

e. A rear projection viewer that will take 35mm to 9 x 9 is now being funded called the AR 21.

f. Rome is working on an automatic recognition device to scan aerial photography.

g. Ohio State is working on scanning techniques - namely a moving spot of light to draw the eye.

h. Rome is not working on group interpretation until the problems for the individual have been licked.

i. Rome is performing a study on a space coordinate system. They have not as yet decided whether it should be solar centered, earth centered or galaxy centered.

7. Resolution Targets were discussed. Those now existing are:
Air Force: 2 at Elgin

6 at Wright Patterson
1 at Edwards

Navy: Mechanicsburg, Pennsylvania

Army: Building a set in New Jersey.

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AGENDA

for

"THIRD INTERSERVICE CONFERENCE RESEARCH AND
DEVELOPMENT AIRBORNE PHOTOGRAPHIC EQUIPMENT"

PLACE: Wright Air Development Center
Aerial Reconnaissance Laboratory, Display Room, Building 125
Wright-Patterson Air Force Base, Ohio

DATE: 5 - 6 May 1959

CHAIRMAN: Mr. E. B. Woodford, Aerial Reconnaissance Laboratory, W.A.D.C.

(Presentations will normally be in the following order)

U. S. Army Signal Corps

U. S. Air Force

U. S. Navy

TUESDAY 5 MAY 1959

0900-0905	Call to Order Introduction of Colonel A. L. Wallace, Jr. Chief, Aerial Reconnaissance Laboratory Wright Air Development Center by Mr. E. B. Woodford
0905-0920	Welcome Address by Colonel Wallace
0920-0930	Opening Remarks by Mr. E. B. Woodford
0930-1015	Presentation of the R and D Budget for FY-60 by each Service and Presentation by Army of their Data Link Program
1015-1025	Coffee Break
1025-1200	Continue R and D Budget Presentations and Discussion
1200-1300	Lunch - Hilltop Cafeteria
1300-1400	Tour of Aerial Reconnaissance Laboratory Photographic Analysis Facility

Enclosure /

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8. The Air Force demonstrated its prototype Dynamic Analyzer Machine for Aerial Reconnaissance Systems. It will :

- a. Pinpoint cause of loss of resolution.
- b. Cut flight tests 60 - 80 percent. A newer, more sophisticated machine will be completed in February 1961. Program time is now available on the existing machine.

WEDNESDAY, 6 MAY 1959

1. It was decided unanimously that 5 inch film will continue to be unperforated.
2. The Air Force is attempting to standardize resolution measurements on cathode ray tubes - probably lines/mm.
3. The Army has been cleared by the FCC to test the transmission of photos, drone to ground, at 2250 megacycles on the Fort Huachuca drone firing range.
4. The Army, Navy, and Air Force representatives then presented Enclosures 3, 4, and 5 respectively and discussed the various pieces of hardware. It is to be noted that APEL is working with a catadioptric lens.
5. The next meeting will be held at Fort Monmouth, New Jersey, in the vicinity of 20 or 21 October to be announced later by Mr. Castellini. The agenda will contain camera mounts, lenses (both domestic and foreign), control systems, and data recording.

THURSDAY, 7 May 1959

1. The Atomic reactor which is about 75 percent completed was visited at Wright Patterson. It will have the capability of taking an experiment 5' x 7' x 9' weighing 10,000 pounds.
2. The rest of the laboratory facilities were visited during the day, and the following items of note were seen and discussed:
 - a. Moonlight photography.
 - b. Single large silver bromide crystals. (Enclosure 6)
 - c. Photographic recording mediums other than silver.
 - d. Internal vibrations and their effects on the performance of aerial photography. (Enclosure 7)

Enclosures

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